New products, attachments, applications and user stories from your Doosan dealer

DOOSAN

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# DoMORE®

## FUEL ECONOMY AND OPERATOR COMFORT RIGHT FIT FOR FAMILY BUSINESS

**NEW** ADTS, WHEEL LOADERS AND CRAWLER EXCAVATORS IMPROVED FOR BETTER EFFICIENCY

DEALER GOES TO GREAT DEPTHS TO KEEP COMPANY MINING

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DOOSAN

## ABOUT THE COVER

Founded in 1965, family-run business G. Allard Excavation of Montreal, Quebec, turned to Doosan excavators to answer their two key demands — fuel economy and operator comfort.

## DOOSAN WEB GUIDE

More information about Doosan products is just a click away.

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# EXCAVATOR ENHANCEMENTS LEAD TO FUEL SAVINGS, IMPROVED UPTIME PROTECTION

## Auto-shutdown feature saves fuel for Doosan crawler excavators

Doosan expands its heavy equipment lineup with four new crawler excavators, delivering increased performance, improved operator comfort, unmatched reliability and durability. The new models include the DX255LC-5, DX420LC-5, DX490LC-5 and DX530LC-5.

### NEW FEATURES

- **Improved anti-skid plates:** increases traction on surfaces
- **Auto belt tensioner, fan and air conditioning:** simplifies maintenance
- **Auto-shutdown:** saves fuel during non-working conditions
- **Battery upgrades:** minimizes downtime
- **Emergency engine stop**: relocated for easier operator access
- **Improved serviceability:** allows for easier access to components and less time for maintenance
- **LCD panel updates:** displays key machine information and camera images simultaneously
- **Upgraded alternator:** delivers improved power for electrical components
- **New front window design:** provides good visibility to the work area and is easier to open and close

A new auto-shutdown feature helps owners save fuel during non-working conditions. When enabled, the feature will shut down the excavator's engine when the preset idle time is met — operators can configure the idle time from 3 to 60 minutes. This is particularly helpful in California, where state regulations limit idling to 5 minutes for off-highway machines.

Smart Power Control (SPC), a new selectable feature, consists of two systems — Variable Speed Control and Pump Torque Control — that work together to improve machine efficiency while maintaining productivity and reducing fuel consumption. The engine control unit (ECU) automatically manages SPC when SPC is engaged. Each of the four power modes will function with SPC engaged or disengaged; however, SPC can only be active in the digging work mode.

- **Variable Speed Control:** Reduces engine rpm during low workload requirements such as during the swing portion of a dig cycle, which reduces the total energy required to perform a task and improves fuel efficiency by up to 5 percent.
- **Pump Torque Control:** Efficiently matches hydraulic pump torque and engine response to the task, preventing engine overload and excess fuel consumption, improving efficiency.

### Tier 4 solution

The new crawler excavators are powered by Tier-4 compliant engines and have been optimized for use with a high-pressure common-rail (HPCR) fuel delivery system, cooled exhaust gas recirculation and variable geometry turbocharger (VGT). A selective catalyst reduction with diesel exhaust fluid and a diesel oxidation catalyst are included. Other new features include an exhaust brake and a mass airflow sensor that allows the electronic control unit to improve the management of airflow from the VGT, and optimizes fuel delivery to the combustion chamber based on engine air intake volume and rpm.

### Monitoring equipment with Doosan Telematics system

These four new Doosan crawler excavators feature a three-year subscription to the Doosan Telematics system, which provides machine intelligence through a device that comes standard on the machine. The device communicates wirelessly through cellular or satellite communication. Machine information can be viewed via the CoreTMS website, which then allows customers, Doosan dealers and Doosan staff to assess various aspects of the machine such as machine's location, hours, fuel usage, engine idle vs. work time and error codes, as well as engine and hydraulic temperatures.

Read more about Tier 4 and how Doosan products meet the emission requirements online at www.doosanequipment.com, and click on the "Committed to Tier 4" link. DM

Turn to page 26 for a short list of key specs.
Visit **www.doosanequipment.com** and click on the Products tab to find more information about Doosan crawler excavators.

# 5 NEW WHEEL LOADERS BOAST IMPROVED FUEL EFFICIENCY

High-lift configuration available for each model, adding extra lift height for loading applications

Five new wheel loaders offer improvements in fuel efficiency, operator comfort, serviceability and remote monitoring with the Doosan Telematics system. The models may be configured with an optional high-lift lift arm for additional dump height when loading trucks.

Enhanced cab features include an improved adjustable steering column to provide more leg room, ease of operation of more floor space. Also inside the cab, a new fuel consumption gauge informs operators how much fuel the machine is using in real time. Updates to the keypad on the dashboard make it easier for operators to review, adjust settings and to clean and maintain it. Overall, visibility within the cab and around the machine has been improved too.

### NEW DL300-5, DL350-5, DL420-5, DL450-5 and DL550-5 wheel loaders

### KEY FEATURES

- Auto-shutdown system: helps reduce fuel consumption
- New air cleaner: offers longer replacement intervals
- Oil sampling ports: improves preventive maintenance procedures
- Fluid pressure diagnostics: on-board monitoring from the cab
- Improved lighting: enhances lighting with new rear LED lamps
- Axle cooler option: (DL420-5 and larger) helps axle run in lower temperatures in severe applications
- Auto greasing system option: replaces daily greasing, extends bearing bushing life

*The optional auto greasing system will grease the correct amount when needed to avoid over-greasing and under-greasing — a considerable timesaver for fleet owners.*

## Easy attachment changes

Add a quick coupler attachment mechanism to quickly and easily change from one attachment to another — extremely helpful when changing from a bucket to a pallet fork for lifting, carrying and loading materials, or changing between bucket sizes.

## Selectable engine power modes

Three selectable engine power modes are available on the new models — Economy, Standard and Power — to better balance fuel consumption and machine power with working conditions.

- **Economy mode:** reduces fuel consumption for low-demand applications and slows down machine movement for conditions that require extra precision
- **Standard mode:** balances fuel consumption for everyday digging, grading and lifting tasks
- **Power mode:** provides superior power and performance for tough digging conditions and truck loading tasks

## Tier 4 solution

The new wheel loaders are powered by Tier 4-compliant Scania diesel engines and have been optimized for use with a high-pressure common-rail fuel delivery system, cooled exhaust gas recirculation system and variable geometry turbocharger (VGT). A selective catalyst reduction with diesel exhaust fluid and a diesel oxidation catalyst are included. Other new features include an exhaust brake and a mass airflow sensor that allows the electronic control unit to improve the management of airflow from the VGT, and optimizes fuel delivery to the combustion chamber based on engine air intake volume and rpm. DM

For many more details about technologies utilized for interim Tier 4 and Tier 4 Doosan machines, visit **www.doosanequipment.com/Tier4.** From there you can click on "Technology Strategy" to learn more about our approach to meeting Tier 4 emission standards.

# NEW ADTS OFFER THE LOWEST COST-PER-TON TRANSPORTED

Improved fuel efficiency plus new comfort features in 28- and 40-metric-ton class

## Did you know?

The first Doosan ADT was delivered in North America more than 30 years ago. Since then, Doosan has been a leading provider of ADTs for off-road hauling applications in the United States and Canada. Additionally, the company has manufactured ADTs for worldwide use for more than 40 years.

Two new Doosan articulated dump trucks (ADTs) utilize Tier 4 compliant engines and feature superior performance, improved fuel efficiency, and increased reliability, serviceability and operator comfort. The 365-horsepower DA30-5 and 490-horsepower DA40-5 are designed to deliver one of the lowest costs of ownership available in the market today.

Improved fuel efficiency in new Doosan ADTs is achieved with engines that provide more torque with the lowest rpms, an 8-speed countershaft transmission and one rear differential — for reduced power loss as well as increased component durability.

### Driveline improvements

New driveline gear ratios provide reduced axle speed, improved component life, reduced vibration and lowered fuel consumption. A front-mounted turning ring, a sloping rear frame, tandem rear bogey and independent front suspension are all features that ensure maximum ground contact and the best transfer of power to all wheels. Doosan ADTs are ideal for mining and aggregate applications, commercial and residential site developments and infrastructure projects, based on their agility on rough as well as soft terrain.

### Best-in-class operator comfort

Doosan ADT cabs are spacious and offer the lowest noise level in their class. Ergonomic, easy-to-use controls allow for increased operator efficiency and productivity. Two levers control the transmission gear selection and dumping of the box. Plus, the cushioned dumping cylinders slow the dumping and lowering speeds to reduce vibration and shock in the operator's suspension seat. With excellent all-around visibility, with a sloping hood, Doosan ADTs offer an excellent front view and superior side view with lateral sight lines.

A 7-inch color LCD shows engine rpm, travel speed, differential locks, fuel consumption and many other machine parameters. The DA30-5 and DA40-5 come standard with a gradient meter. Two meter readings are visible on the LCD screen. Up/downhill is shown as a percentage, and sideways tilt is shown as a degree value.

### NEW DA30-5 and DA40-5 ADTs

### KEY FEATURES

- Payload meter (standard)
- Tailgate, auto lubrication system, rearview camera (standard)
- Doosan Telematics (standard); see page 6 for details
- Gear-driven tandem bogie for increased stability, less wear parts
- 8-speed ZF countershaft transmission specifically designed for ADTs
- Quietest (72 dBa), widest cab with front access for increased comfort

### Cooling updates

Included in the DA30-5 and DA40-5 ADTs is an external engine intake air grille located on the right-hand side of the truck hood. This provides cooler air to the engine intake improving engine efficiency. Also included in the new models is an air vent to help prevent over-pressurization in the engine compartment.

### Tier 4 solution

The new articulated dump trucks are powered by Tier 4-compliant Scania diesel engines and have been optimized for use with a high-pressure common-rail fuel delivery system, cooled exhaust gas recirculation and variable geometry turbocharger (VGT). A selective catalyst reduction with diesel exhaust fluid and a diesel oxidation catalyst are included. Other new features include an exhaust brake and a mass airflow sensor that allows the electronic control unit to improve the management of airflow from the VGT, and optimizes fuel delivery to the combustion chamber based on engine air intake volume and rpm. DM

Turn to page 27 to find a list of Doosan ADT specs, or visit **www.doosanequipment.com** to find more product information and detailed specs for the DA30-5 and DA40-5 models.

# OUT OF SIGHT ... BUT NOT OUT OF MIND

New Doosan Telematics system makes it simple to keep tabs on equipment, monitor usage and respond to service needs more quickly — no matter where it's working

In response to greater demand for machine-to-machine communication, machine intelligence and remote equipment monitoring, Doosan has introduced an upgraded telematics package for its heavy equipment — including excavators, wheel loaders and articulated dump trucks. The new Doosan Telematics system is standard on all Doosan heavy equipment, except for DX63-3 and DX85R-3 compact excavators.

The Doosan Telematics system provides a connected machine solution that allows you and your dealer to remotely track and monitor Doosan heavy equipment. New Doosan machines come with a complimentary three-year subscription, including prepaid wireless service. You can monitor your Doosan equipment remotely from an Internet-enabled device and an upgraded Doosan Telematics website called CoreTMS. After the three years of prepaid wireless service expires, you will have the option to purchase a service extension. Doosan has offered a telematics solution since 2008, so if you have an active telematics subscription, you can access the new CoreTMS website for machine details and reports.

## The new Doosan Telematics system includes:

- **GPS unit:** helps you monitor the location of your Doosan equipment
- **Q-Pro wireless data modem and wireless service:** sends data collected from sensors on the machine to a website via a cellular signal
- **Satellite antenna and service:** provides a communication link when the Doosan machine is working in remote locations and cellular service is not available
- **CoreTMS website:** offers access to many useful reports and important machine data

## Worried about equipment theft?

It's estimated that in the United States, nearly $1 billion worth of equipment is stolen annually. You can monitor the physical location of your Doosan machine, ensuring it is where it is supposed to be, which helps prevent equipment theft. The Doosan Telematics system is particularly useful for improving fleet management by visibility to all machine details through the CoreTMS website.

## Telematics reports

The new Doosan Telematics system allows you and your dealer to efficiently track machine information. Below is a sample of the many reports available:

- **Fleet status**
- **Machine details**
- **Location of the machine (position displayed on Google Maps™ mapping service)**
- **Operating hours**
- **Fuel usage**
- **Engine idle time vs. work time**
- **Error codes**
- **Engine and hydraulic oil temperatures**
- **Maintenance history**
- **Next maintenance time**
- **Utilization reports**

## Manage more efficiently

The Doosan Telematics system puts more information in your hands to help you better manage your heavy construction equipment. You can monitor operational data and make recommendations to operators to improve machine usage and fuel efficiency. For example, you can see if an operator is idling a machine for a long time when it should be turned off to save valuable diesel fuel. Operational data also gives you insight for monitoring the machine's fuel efficiency and the selected power mode in different applications. This is helpful to determine if an operator can make adjustments in order to do the same work with less fuel. Doosan machines provide operators with various power modes to help them best match the power needed to specific applications.

## Improved maintenance scheduling

Monitoring maintenance schedules is also made easier with the Doosan Telematics system. You can review a machine's maintenance history through the telematics website and identify what preventive maintenance is coming up. Fuel levels for each machine can be reviewed on the website, eliminating the need to physically visit each machine to check fuel levels — resulting in fewer trips for the fuel truck.

If a problem does arise, the Doosan Telematics system alerts you automatically — to help reduce machine downtime. The website reports fault and warning codes, and you or your dealer can be more prepared to fix the problem. Your dealer can view the codes on the CoreTMS website to help diagnose an issue, without having to be at the same location as the machine. Then, because your dealer has more data, the service department can respond more effectively for what the machine needs.

With all of the information available from the Doosan Telematics system, business owners like you can make better estimates when completing job bids and planning for jobs. Accurate machine usage reports, such as the number of hours a machine was used for a particular job, help you respond to new business opportunities. DM

Visit **www.doosanequipment.com** and click on the Parts and Service button to learn more about the Doosan Telematics system.

# A PARTNERSHIP BUILT ON PRODUCTIVITY

Adam Ware, son of James Ware, helps operate the DX225LC-3.

To help a customer expand, company elevates productivity by adding a Doosan excavator with bucket and thumb combination

When a long-time customer asks for help in meeting expansion initiatives, it's time to look for new ways to improve productivity — to be a partner in growing their business by finding faster, more versatile solutions to get the job done.

And that's just what James Ware Construction did when Burr Oak Tool, a customer for nearly three decades, came to them for a 120,000-square-foot expansion to a state-of-the-art building (also built by James Ware Construction) at Dresser Industrial Park in Sturgis, Michigan.

A full-service design/build general contractor and qualified builder of Butler® pre-engineered building systems, James Ware Construction found the improved productivity it was looking for in its first-ever Doosan machine — a DX225LC-3 crawler excavator configured with a bucket and a thumb attachment.

According to owner James Ware, the DX225LC-3 excavator with a 36-inch bucket helps perform general excavation duties, including trenching foundation footings and utilities, and loading topsoil, gravel and refuse into dump trucks.

Ware also put the 167-horsepower excavator to the test digging a 10,000-square-foot drainage pond and breaking up frozen fill during a construction schedule that ran throughout winter. The machine's hydraulic system and strong breakout forces — topping 33,500 foot-pounds — provided the muscle to help remove approximately 2,000 yards of topsoil, as well as leveling and grading 1,000 yards of gravel.

Joystick-mounted attachment control buttons make it easy for operators to use attachments.

## 3 TIPS FOR ATTACHMENT PRODUCTIVITY

A Doosan crawler or wheel excavator with greater functionality is not only more productive on a daily basis, it also has a greater chance of generating profit and being more responsive to changing job tasks.

Doosan customers shared these three tips to enhance excavator productivity and increase business year-round:

1. **Maximize machine functionality every season of the year by investing in different types of buckets and specialty attachments — such as thumbs, grapples, hydraulic breakers and plate compactors.**
2. **Minimize the number of excavators you have to transport to the jobsite by selecting the right attachments to perform multiple tasks.**
3. **Incorporate an attachment quick coupler for maximum productivity and efficiency — including the Doosan wedge lock coupler or the hydraulic quick coupler.**

The bucket's abrasion-resistant steel construction had the added durability to excavate and backfill 1,200 linear feet of footing at a depth of 42 inches, as well as trenching more than 1,000 feet to install 36-inch drain pipe backfilled with stone.

Ware says the Doosan crawler excavator, with its pin-on thumb, has improved his crew's productivity and profitability compared to his previous construction equipment.

"The Doosan excavator replaced another excavator brand with a stationary thumb. With its increased size, we can dig and load faster," says Ware, "and we can use the thumb later this year for a demolition project."

The Doosan DX225LC-3 with thumb combination was more affordable and easier to operate compared to the company's earlier excavator. Specifically, the Doosan machine's joystick controls were a top performance option the company evaluated before purchasing from Carleton Equipment. Equipped with two-way auxiliary hydraulics, joystick controls and joystick-mounted attachment control buttons, Ware's operators can make more precise thumb movements even in the most abrasive jobsite conditions. "This excavator has smooth controls," Ware says.

Ware's success with the Doosan excavator's thumb has him planning ahead to the productivity advantages he can gain with future Doosan attachments. "The DX225LC-3 is plumbed for a hydraulic breaker that we'll rent as needed," he concludes. DM

To see approved attachments for excavators, turn to the attachment guide in this issue.

# SERVICING EQUIPMENT 1,250 FEET UNDERGROUND

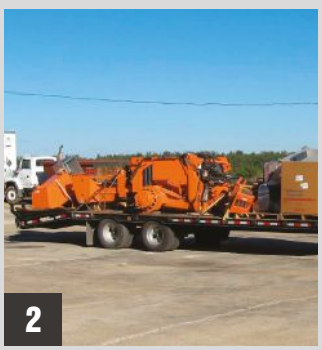
## Dealer goes to great lengths (and depths) to keep equipment running

Underground operation, especially mining, can be demanding for both the operators and the machines, according to Dave Skaggs, maintenance sub-foreman at the Doe Run Company — a privately held natural resource company in Missouri that deals primarily with mining and metal production. Its operators depend on the machines to work well when they are underground, and "when one of these goes down, it is a crisis situation. Every hour down affects our ability to meet quota," Skaggs says.

Doe Run currently utilizes three Doosan articulated dump trucks (ADTs), including a newer DA30, to transfer ore 500 to 1,250 feet underground from the mine face to the surface. Within the mine face, crews excavate large areas — typically 14 feet high by 32 feet wide — using massive pillars to support the ceiling. Then, after excavating the ore, the pillars are removed before closing the mine face. According to Doe Run's website, crews then transport the blasted ore — containing approximately 4 percent lead, 1 percent zinc and 15 percent copper — to the shaft area.

**Before Doosan ADTs can operate underground, they are completely dismantled, lowered in an elevator and reassembled. The whole process took about 10 days!**

Members of the crew split the truck bed in half to fit it down the mine shaft.




The disassembled DA30 is transported to the mine.

The front half of the main frame is lowered down into the mine shaft.

Once everything is in the mine, the crew reassembles the truck, starting with the front.

> *"The improvement in service, relationship and parts has tremendously helped in maintaining our production goals at the Doe Run 29 mine."*
>
> — **Dave Skaggs,** Doe Run Company

Another challenge? Before the company's Doosan ADT can operate underground, they have to be completely dismantled, lowered by an elevator and then reassembled. That's why the relationship between Doe Run and its Doosan equipment dealer is so invaluable.

Since their initial meeting, Skaggs says Doe Run and Bobcat of St. Louis have formed a close working relationship, contributing to Doe Run's success.

"The improvement in service, relationship and parts has tremendously helped in maintaining our production goals at the Doe Run 29 mine," he adds. "With the dependability of the trucks, as well as the dedicated men and women at Bobcat of St. Louis, we have successfully met production goals every month for the last two and a half years.

"Jim Lynch (corporate service manager), Larry Kohler (sales specialist) and their mechanic Chris Mercurio all came to help solve our issues. This greatly impressed me, compared to what I had been dealing with previously," Skaggs says.

Kohler says the Doosan ADTs work well underground, but servicing them can be a real challenge. "There's a time restraint because the elevator only goes up or down when they have materials to transfer below or above the surface. So you have to have everything in place at one time," Kohler says.

Even though workers have lights, the elements are much different underground than at the surface. "It's dark, damp, wet and the roads are slippery. It's just a totally different environment," Kohler says.

Being able to react to the environment is just part of the job. The crew experienced a damaged hydraulic line on an ADT that Doe Run was unable to repair in its shop. Employees reached out to Kohler to fix the issue, who quickly responded, driving 100 miles to pick up the hydraulic line at Doe Run. He took it to St. Louis where another part was made and returned the same day. "Anything I can do to make their job easier, I will do. I would do that for any of my customers," Kohler says. "It's the little things you do to help customers out that keep them coming back to you."

Taking ownership and selling a great product are factors that Kohler says make Bobcat of St. Louis stand out from other dealerships. "I've been in this industry for more than 35 years, and I've seen a lot of manufacturers that just didn't put the fit and finish in their product like Doosan does," Kohler says. "They have a very well-built machine in every aspect — smooth controls and a lot of metal in the machine. They've built a very good machine."

Well-built machines, quick servicing times and a customer-first attitude are why Doe Run continues to do business with Bobcat of St. Louis.

"The fact is — they realize the importance of our success in business. And they take ownership for our success," Skaggs says. **DM**

Visit **www.doosanequipment.com** and and click on the "Parts & Service" heading to learn more about Doosan service offerings.

They reassemble the back.

Then they reassemble the ADT cab.

And finally they put everything together to start the day's work.

# OVERCOMING OBSTACLES

Doosan excavators and wheel loader help Alaska contractor overcome obstacles when building service stations

Scott Yaskus, owner of Prism Design and Construction

For specialty contractor Scott Yaskus, the road to success is overloaded with obstacles: cold weather, limited working season, long travel distances, a shortage of available rental equipment and stringent deadlines. His 11-year-old company, however, has met these challenges to achieve an unprecedented market share of projects throughout the biggest state in the United States.

Yaskus and his 19 full-time employees travel to every corner of Alaska (570,665 square miles) working for petroleum retail service stations. They do everything from full site development to 24/7 field service. That includes repairs, remodeling, new construction, and testing and certifying. When Yaskus started his company, he already had 14 years of experience working in Alaska, providing fuel station construction, maintenance and operation. Initially his firm, Prism Design and Construction, did service and some installation work.

"Out of the blue one day, a major petroleum retailer called me to repair the car wash portion of a service station," Yaskus says. "I had never done one, but eventually I figured it out. As a result, I started getting more and more service work from that company. Next, they had me do remodels, and then three new builds. The business kept growing to where my company now has a majority market share of all the retail fuel-related work in Alaska."

When asked how he captured that large a portion of the market, Yaskus responds: "Doing things right the first time and keeping our customers' needs met, I guess."

He says between 1998 to 2000 there was a huge push to get service stations upgraded. After that, the work tapered off and several firms got out of the business. He started his business in 2003 when there was not a lot of work. That's certainly not the case today.

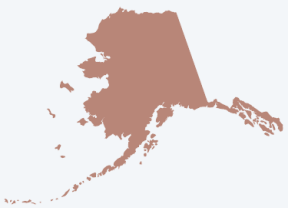
"My biggest concern is getting my people where they need to be with the materials and equipment to do their job," says the owner of the Wasilla-based company. "One day a crew could be flying somewhere, the next day driving 400 miles to a jobsite. We take pride in doing the project correctly the first time. For that you need everything right — people, supplies and Doosan equipment. We've got those bases covered."

That's good because there are a lot of unique circumstances that his company has to

The Doosan DX235LCR excavator operator prepares to lift the fuel holding tank from the truck before it's placed in the ground.

> *"When we got our DX225LC we were the only ones up here with a newer Doosan. Now you see them all over the place. That speaks for itself. This is a harsh environment and substandard equipment gets weeded out quickly. Our Doosan equipment has met our needs and has proven to be extremely reliable and cost-effective."*
>
> — **Scott Yaskus,** Prism Design and Construction

## SEVEN FACTS ABOUT ALASKA



1. Alaska's most important revenue source is the oil and natural gas industry.
2. Measuring from north to south the state is approximately 1,400 miles long and measuring from east to west it is 2,700 miles wide.
3. It is twice as large as Texas.
4. There are places in Alaska that get 24 hours of sunlight! And places that get 24 hours of darkness!
5. Juneau is the only capital city in the United States accessible only by boat or plane. It is also the largest U.S. city covering 3,108 square miles.
6. There are more active glaciers and ice fields in Alaska (100,000) than in the rest of the inhabited world.
7. The highest recorded temperature: 100° F. The lowest: minus 80° F.

regularly deal with — particularly fewer, shorter workdays. Service stations throughout Alaska want to avoid any disruption from May to September, the prime tourist season, when many of them do 80 percent of their annual business.

"After summer ends we have to do all our underground work from September to November," Yaskus says. "Our paving season shuts down in October. To continue working in winter, we have to use heated tents. Still, we have to wait until spring to complete the paving work."

Although most service station remodeling and teardowns are limited in summer, Yaskus can take advantage of up to 19 hours of daylight to do service, maintenance and new builds. In winter, the amount of daylight shrinks to as little as six hours. Temperatures can be as low as minus 30 to minus 40 degrees Fahrenheit and the work still goes on.

### Tight schedules

As an example of how time-sensitive a project can be, Yaskus reports that on a raze and build, he may have 90 to 100 days to demolish a building, strip the site, remove all debris, install new tanks and fuel system, build a new structure and have it fully operational.

"That's why we have a broad range of skills, so the entire project flows smoothly," he says. "We do all our own demolition, dirt work, electrical, piping, tank installation and carpentry. Now we sub out very little. Not many firms can do this much of the job themselves. That's our niche.

"In fact, the clients we work for only put out bids to a few select contractors who they know can meet the deadlines and still keep up the quality of work. We work very hard to be on that short list and our Doosan equipment helps keep us there."

### Limited rental equipment

A shorter work season has made it difficult for Yaskus to rent high-demand construction equipment at times. When machines were available, the economics of renting could be overwhelming.

"When I traveled to a place like Fairbanks (400 miles away), I tried to rent an excavator for a two-day job," he recalls.

*continued on page 14*

"No luck. So I decided it would be better to have my own equipment and haul it to jobsites when I could," he says.

Two other factors led to Yaskus seriously looking at purchasing an excavator. In 2005 and 2006, he started doing more site work, including removing tanks, tearing down buildings and putting up new installations.

"I used to sub out much of that work and it was costing me a fortune," he says. "I was paying and still had to be onsite directing the project. I figured I could save money, have better control of the schedule and have equipment available throughout the year if I had my own."

Economically, it was a winning situation. "When I would rent an excavator for a month it would cost $15,000 to $20,000, and then I would need it again 3 weeks later. Sometimes only for a few days at a time," he says. "I did the math and realized that if I could buy the most cost-effective machine, I would be way ahead financially and be able to use it at any time."

The best machine turned out to be a Doosan DX225LC crawler excavator.

"It was a great value," Yaskus says. "After the renting availability issues and the cost, the DX225LC turned out to be a huge plus. I ran it for about five years and never had to make any repairs."

Next he purchased a DX140LC for working in tighter sites. That machine impressed him with its lifting power.

"I use it to remove old tanks from the ground, a job that is difficult because once you dig around the entire perimeter, you cannot get to all the sides again, so you have to drag the tank out of the hole," he says. "These tanks usually weigh 10,000 to 20,000 pounds and often snag on anything they come in contact with. The DX140LC pulled them right out. I said to myself, 'Wow this is quite the machine.'"

About a year ago, he added to his inventory of reliable Doosan products when he purchased a 166-horsepower DX235LCR, a near-zero reduced tail swing unit, from his local Doosan heavy equipment dealer — Miller Construction Equipment Sales Inc. The DX235LCR has just 3 inches of tail overhang over the side, making it ideal for working on confined jobsites.

"The DX235LCR is a real good fit because we regularly work around light poles and buildings," Yaskus says. "A gas tank is usually 8 to 10 feet in diameter and 30 to 40 feet long. When you have to dig a couple of those out of the ground, there is not a lot of room to maneuver. The tank area can take up to a quarter or half of the site, so an excavator that can work in limited space is a must. The guys love this machine and it's hard to get them out of it."

Yaskus says that as his volume of site work continues to increase, the economic advantages of having his own excavators is substantial.

"I put about 1,600 hours on the DX225LC excavator from 2006 to 2011," he notes. "The DX235LCR accumulated that many hours in its first year. It wouldn't bother me if we only used it for 500 hours — it would still be very valuable. I figure what I previously paid in rent will pay off the loan on this machine within two years, and the following years will be free."

In addition to his excavators, Yaskus also has a Doosan DL200TC (tool carrier) wheel loader. He takes it to almost every job, using the pallet fork attachment to unload trucks and move materials around the site.

"It provides a smooth ride and is an excellent pick-and-carry machine," he says. "The DL200TC is a good, all-around piece of equipment."

Yaskus is sold on the reliability and value of Doosan products. "Having good, reliable Doosan excavators has really helped my business grow. I recommend them to everyone who asks about them. When we got our DX225LC we were the only ones up here with a newer Doosan. Now you see them all over the place. That speaks for itself. This is a harsh environment and substandard equipment gets weeded out quickly. Our Doosan equipment has met our needs and has proven to be extremely reliable and cost-effective. Our dealer has been there when we needed them to resolve any issues that creep up. Thankfully they have been few and far between," he concludes. **DM**

Visit **www.doosanequipment.com** and click on the Products tab to learn more about Doosan excavators and wheel loaders.

# HARDWORKING ATTACHMENTS HELP YOUR DOOSAN EQUIPMENT DO MORE

Genuine Doosan attachments are designed and manufactured specifically for your Doosan excavators and wheel loaders — so you know they're the right fit for any job on your list.

A variety of buckets for Doosan excavators and wheel loaders offer the durability to tackle light- or heavy-duty excavating projects. When you need to do more than dig, additional excavator attachments, including hydraulic breakers, plate compactors and clamps, commonly known as thumbs, get tough jobs in the done pile. And it's easy to get more out of your wheel loader simply by adding a pallet fork. Hydraulic quick couplers for excavators and wheel loaders make changing attachments effortless.

# ADD PR
# WITH A V

## Choose between three Doosan excavator buckets to best match your digging needs

### HEAVY-DUTY BUCKET

- Reinforced diamond-folded top section for added structural strength
- Deep profile design for high capacity
- Overlapping plate reduces stress in critical areas
- Dual-radius shape increases heel clearance

### GRADING BUCKET

- Reduced weight with high-quality, abrasion-resistant material
- Extra side and bottom wear plates, using AR400 special alloy steel
- Two web plates provide additional strength and distribute stresses
- Deep profile is ideal for leveling and loading applications

### ANGLE TILT BUCKET

- Angle tilts 45 degrees in either direction
- Heavy-duty components for greater strength and power
- Uptime protection from spill guard and cylinder guards
- Adjustable tilting speed with flow control valves

## DID YOU KNOW?

**Doosan excavator buckets are manufactured in Litchfield, Minnesota!**

### QUICK ATTACHMENT CHANGES

Doosan hydraulic quick couplers make it easy to switch between attachments.

### VERSATILE

- Easily pick up and change a wide range of excavator attachments without leaving the cab
- Coupler enables operators to reverse buckets to excavate against walls and under pipes

### DURABLE

- Built with extra-high-strength and abrasion-resistant steel for maximum durability
- Simple design has no greasing requirements, and fewer maintenance and replacement parts

# ODUCTIVITY TO YOUR DOOSAN EXCAVATORS
# ARIETY OF VERSATILE, DURABLE ATTACHMENTS

## Expand your Doosan excavator productivity with these versatile attachments

### HYDRAULIC BREAKERS

- Impact energy class: 2,000 to 8,000 ft.-lb.
- Energy recovery system increases strike power by using energy generated by piston rebound
- Standard hydraulic dampening system prevents blank-fire damage
- Tools include moil, blunt, chisel and pyramidal / nail

### PLATE COMPACTORS

- Three models available
- Flow ranges*: 13 to 24, 24 to 30 and 24 to 42 gpm
- Eliminates the need for a worker to compact soil in a trench
- Standard-flow control valve prevents operating too quickly

**Flow range depends on the plate compactor model.*

### THUMBS

- Thumb edges and bucket alignment keep objects secure for precise loading and material handling
- Heavy-duty cylinder is designed for the most demanding applications
- Easy installation on the excavator arm
- Load-holding valve helps prevent spillage

### PRODUCTIVE

- Save valuable time by changing attachments from the comfort of the cab
- A more compact design means improved tip radius, increasing breakout force

### SAFE

- Front safety lock retains the attachment in case of a misconnection
- Rear safety lock retains the attachment in a working position, even during a power loss

### WEDGE LOCK COUPLER

In addition to Doosan's excavator hydraulic quick coupler, a wedge lock coupler is available. It can be used with a variety of Doosan excavator buckets and with thumbs. The wedge lock coupler provides a limited tip-radius increase over pin-on mounting, and still retains maximum breakout force.

# TRANSFORM YOUR DOOSAN WHEEL LOADER TO TACKLE **WHATEVER JOB IS ON YOUR LIST**

## Select from four bucket choices for your Doosan wheel loader, each designed for a professional fit and exceptional performance

### GENERAL PURPOSE

- Handles material densities between 1,800 and 2,500 pounds per cubic yard
- Sloped-bottom design allows for maximum fill capabilities and material retention
- More efficient dumping capabilities with sloped-bottom design; increases dump angle by five degrees
- Available as pin-on or compatible with quick coupler systems

### LIGHT MATERIAL

- Handles up to 1,800 pounds per cubic yard
- Sloped-bottom design allows for maximum fill capabilities and material retention
- More efficient dumping capabilities with sloped-bottom design; increases dump angle by five degrees
- Available as pin-on or compatible with quick coupler systems

### MULTI-PURPOSE

- Versatile attachment for digging, grappling, loading and top dumping
- Double-bottom clamp floor design provides greater strength and durability
- Standard bolt-on moldboard cutting edges
- Available as pin-on or compatible with quick coupler system

### ROCK

- Smart choice for handling loose rock or digging in severe applications
- High-strength, alloy steel construction

### PALLET FORK

- Good visibility with single or double hanger, lower top cross tube
- Available with manually adjustable tines or hydraulically actuated tines

### Quick coupler makes it easy

With a hydraulic quick coupler, easily switch between attachments without removing pins.

- Four-point pickup system eases coupling / uncoupling on uneven terrain
- Single cylinder design requires less maintenance
- Good visibility from the cab to the attachment
- Utilizes existing wheel loader hydraulics with installation kit
- Available in JRB or ISO style

*Contact your local Doosan dealer today to learn more about genuine Doosan attachments for excavators and wheel loaders.*

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# 50-PLUS YEARS OF EXCAVATING EXPERTISE

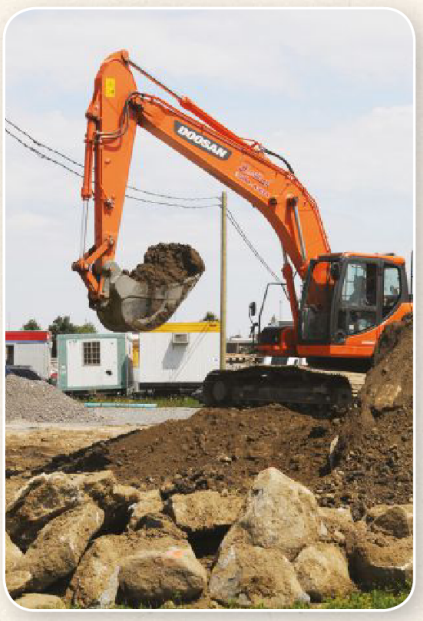
## Right mix of heavy equipment, focus on family and employees sustain contractor

Even at 72 years old, George Allard cannot pull himself away from an excavator. His love for and fascination with the heavy construction equipment traces back to the 1960s when Allard founded his excavation company in Montreal, Quebec.

G. Allard Excavation was established in 1965 by this young entrepreneur with a passion for operating heavy equipment and the blue collar, gritty work needed to succeed in the high-productivity excavation industry.

"Today, we do everything from large civil engineering projects to office buildings and smaller jobs such as residential projects," says Christian Allard, 42, who now runs the daily operations and construction portion for his father's business.

The family-first mantra has been one of the major components of success for G. Allard Excavation. Not only has Christian transitioned his role after 25 years as an operator, but over the years, a number of other family members have also come on board.




### Building a 50-year foundation

With his son taking on a larger role, George has been able to transition his focus to the shop; the founder supervises the garage and maintenance operations, as well as the materials production. Even after 50 years of work, he still finds a warm seat waiting in the machine that excavates the sand at the company sandpit. Christian's brother Sylvan also finds a home behind the controls, serving as the company's key operator for most excavating jobs.

With several Allard family members and other employees demonstrating proficiency as operators spending long hours in the cab, the company has gravitated to excavators that are reliable, productive and comfortable. A growing staff of operators has made it even more important to build a fleet of machines that are easy to learn and maintain. To meet all of these objectives, G. Allard Excavation has added four Doosan crawler excavators to its fleet: two DX300LCs, a DX225LC and a DX225LC-3.

"With our diverse applications, we need a number of different-size machines," Christian Allard says. "We like the DX225LC because it is good for smaller-scale jobs, such as residential projects. The DX300LC excavators are ideal for the larger yet confined jobs. It is right in that sweet spot where it's big enough for optimum productivity but small enough to fit into tighter environments.

"The primary reason we choose Doosan for earthmoving is the fuel economy; Doosan machines provide the highest production at the lowest cost."

The company has turned to Doosan to answer its top two demands in excavator design: fuel economy and operator comfort. With smooth controls and larger cabs with increased visibility, the Doosan excavators have proven valuable to the operators. Additionally, the

Christian Allard, G. Allard Excavation

local dealership has been integral in George Allard's success. The accessibility, reliability and attentiveness of Denis Gauvin Inc., the area's Doosan heavy equipment dealer, has allowed G. Allard Excavation crews to stay on the jobsite consistently and continually operate at optimum efficiency.

Alongside the family, G. Allard Excavation has steadily expanded its workforce over the years. Today there are more than 40 employees on staff, with 25 of them actively working as operators. Not only are many of these individuals trained operators, but many are also highly trained mechanics who are responsible for their own maintenance. The mechanics on staff appreciate knowledgeable operators who can perform diagnostics and provide self-support in the field, enabling the company to maintain a high level of efficiency.

"Our employees are a big part of our long-term success. We have good employees and we want to take care of them. Taking care of our employees and taking care of our customers is crucial; it's important to build a good reputation and good relationships," Christian says.

### Excellence in excavation

This focus on reputation and relation has enabled G. Allard Excavation to become the company of choice on some of the most substantial projects in Quebec. When Rona — a Canadian distributor and retailer of home

> *"The primary reason we choose Doosan for earthmoving is the fuel economy; Doosan machines provide the highest production at the lowest cost."*
>
> — **Christian Allard,** G. Allard Excavation

improvement and hardware products — was looking to add a new location, they turned to the Allards' firm to perform the earthmoving. The project called for 23,000 cubic yards of excavation, which was achieved primarily with the use of the company's DX225LC excavator and the two Doosan DX300LC excavators.

The company has also become one of the foremost experts in drainage infrastructure improvements. With their comprehensive knowledge and background, G. Allard Excavation was called in on a 3.72-mile underground drainage improvement project not far from its home base, again turning to the DX300LC excavators to complete the project.

"We really specialize in moving a lot of material, efficiently," Christian says. "We do a lot of larger road jobs; we recently raised a road 20 feet and had a caravan of trucks hauling material in. Also, we did an underground garage for an office building and excavated 24,851 cubic feet of dirt."

In order to perform all of these tasks with the utmost quality, Christian has put a premium on maximizing the hours he gets from his excavating equipment.

"We have a number of factors we look for on equipment. At the top of that list are fuel economy and operator comfort, along with reliability and value," Christian says. "Our operators are in the machines all day long, and we want to make sure we are being as productive as possible. So if he's comfortable and he's in a good environment, then he's going to enjoy working more and he'll be more productive."

Excavators and operators have advanced significantly since George began his company a half-century ago. But no matter how many years have passed, the Allard family's goal of maintaining equipment as well as quality employees and relationships has remained steadfast. **DM**

Visit **www.doosanequipment.com** and click on Products to find specs and approved attachments for Doosan crawler excavators.

# SCRAP, GARBAGE, YARD WASTE … NO PROBLEM!

Three companies describe how Doosan delivers for their industrial applications

Whether we think about it or not, we all depend on recycling and solid waste companies — both the services they provide and the dedicated employees who put in many hours to ensure that they run efficiently. And when scrap metal recycling facilities and sanitary landfills need reliable heavy equipment, they turn to a brand they can trust: Doosan.

Durable Doosan heavy machines — including crawler and wheel excavators, articulated dump trucks (ADTs) and wheel loaders — are currently being used to sort and separate materials at scrap metal facilities and keep up with the daily tasks at sanitary landfills. Although the job functions vary from site to site, Doosan's optimal machine performance, unmatched service, operator comfort and easy attachment exchange remain constant.

## Performs well, saves fuel

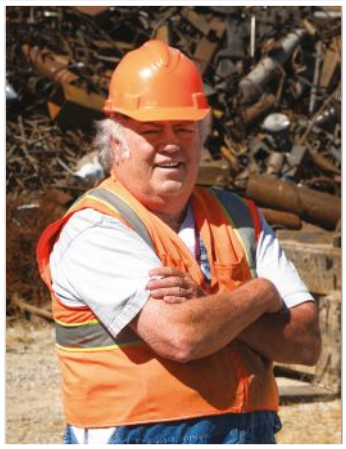
When it comes to machine performance, reliability and fuel efficiency, Doosan equipment has the customer in mind. Max Mullins, president of Mullins Salvage in Mount Olive, Illinois, has been operating Doosan heavy equipment because of its stellar performance. "We tried one machine and really liked it. In the scrap business it's a big deal because you need a machine that will run," he says.

Currently Mullins and his employees operate seven DL250 wheel loaders, one DL200 wheel loader and a DX340LC crawler excavator for up to 10 hours a day, six days a week at his salvage yard. His operators perform day-to-day functions such as using a shear, bucket and pallet fork to process and move scrap metal.

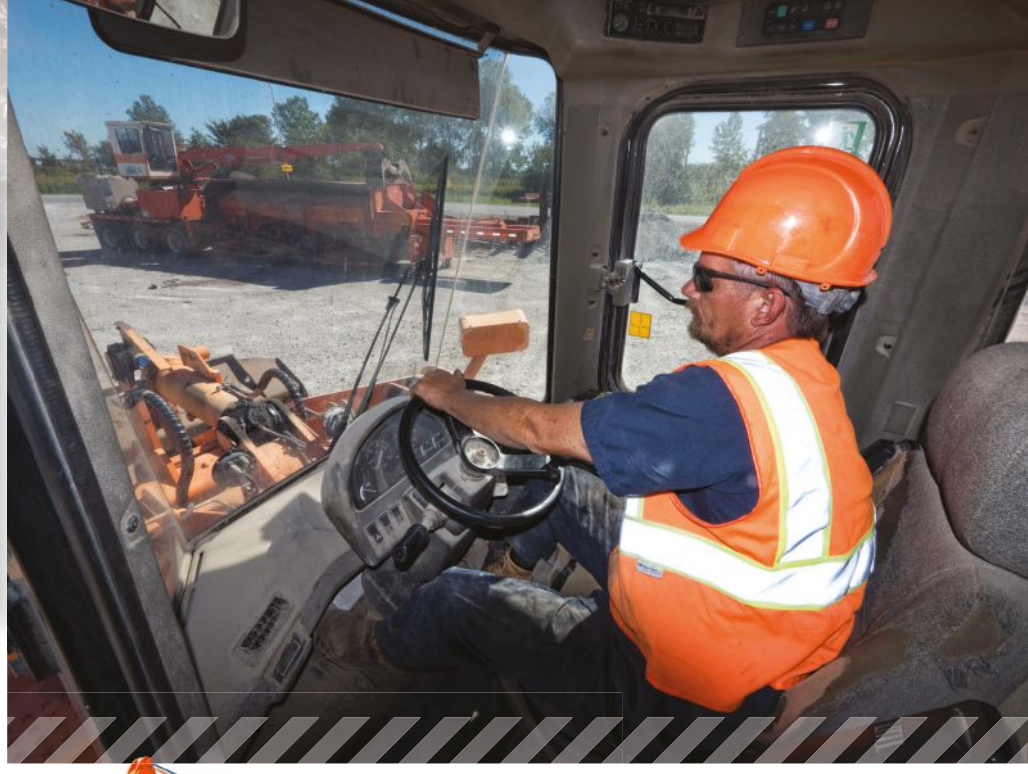
In Mullins' eyes, a machine that performs well and saves fuel is a win-win on the jobsite. "The machines are very easy on fuel and will run almost twice as long as other machine brands," he says.

Reliability on the jobsite is also key at Smith Iron and Metal Co. in Richmond, Virginia, that has owned and operated Doosan heavy equipment since 2000. "We looked at a machine that was sized for what we were doing, and the machines have far exceeded our expectations," Tom Tolbert, with Smith Iron and Metal, says. "They have very little downtime and are the best, most reliable machines we've ever had."

A Doosan DX420LC crawler excavator owned by Waste Tech Inc. loads dirt into an ADT for cover purposes at the Black Hawk County Landfill in Waterloo, Iowa.



Max Mullins, president, Mullins Salvage, says his operators (shown at right) are in the machine for at least 10 hours a day, so comfort and visibility are key.



Smith Iron and Metal currently owns a Doosan DX225LC crawler excavator and a DX210W wheel excavator that uses a 40-inch magnet to unload 200 to 300 pickup trucks of scrap metal per day. They purchased the Doosan machines from H&E Equipment Services, a local Doosan heavy equipment dealer.

## Excavators, ADTs load cover

Doosan machines not only perform well at scrap metal yards, but also exceed at moving and leveling waste in sanitary landfills like the 320-acre Black Hawk County Landfill in Waterloo, Iowa. David Dobbs is the general manager for Waste Tech Inc. (the company that manages the daily operations of the landfill), and has more than 20 years of experience. He oversees the heavy equipment, including two Doosan articulated dump trucks (ADTs), DX255LC and DX420LC excavators and a DL300 wheel loader — purchased from RTL Equipment in Grimes, Iowa.

At the landfill, an operator loads dirt or "cover" with a crawler excavator and bucket into two Doosan ADTs, and then the trucks transport the material to active cells that hold approximately 180,000 tons of waste. The cover helps to minimize waste from blowing onto neighboring properties. According to Dobbs, the facility collects waste from approximately 290 businesses a day, roughly 900 tons of material from five nearby counties.

> *"They have very little downtime and are the best, most reliable machines we've ever had."*
>
> **— Tom Tolbert,** Smith Iron and Metal

Yard waste, grass clippings and leaves that were previously buried in the cell were separated years ago, according to Dobbs. The landfill collects, sorts and stores the organic waste until it can be processed onsite and later recycled or reused. "We maintain the yard waste coming in, so as far as the Doosan wheel loader, we'll go out and push up the pile just to keep the stockpile in a smaller area," Dobbs says.

## An ease of service

When a machine needs service, Doosan customers look for an understanding dealer who will respond quickly to the problem at hand. Luckily for Mullins and Tolbert, their operators can take care of many service needs themselves.

"We do what we can ourselves and very rarely have to call a dealer," Tolbert says. "We've never experienced any engine problems and have had very few hydraulic issues."

Smith Iron and Metal's machines currently run 12 hours a day, five days a week, plus eight hours on Saturdays, pushing between 3,000 and 4,000 hours per machine per year. However, if a service issue arises, a local Doosan dealer is ready to help Smith Iron order parts or send someone to the site to assess the situation. Dobbs receives the same level of high-quality service from his Doosan dealers, including Browns Heavy Equipment in Ames, Iowa, to help maintain his ADTs.

## Keeping operators comfortable

Doosan equipment operators will often stay in a machine for hours on end, emphasizing the need for a comfortable cab. Doosan machines feature one of the largest cab openings on the market, making it easier to enter and exit the machine. And they're comfortable inside to protect operators from outside elements.

*continued on page 20*

"Our new machine is very roomy, comfortable and easy to operate," Tolbert says.

Along with a roomier cab, heat and air conditioning are essential to the seven operators at Mullins Salvage who are in the cab for up to 10 hours a day. "The heat and air conditioning are important because operators are out in the heat and cold and really need that feature," Mullins says. "There's also a lot of glass for good visibility."

Dobbs says today's cabs have come a long way from when he started working in this industry. He says operators used to create make-shift cab enclosures from cardboard because they were all open, exposing them to harsh weather, especially in winter. His operators appreciate the heat and air conditioning in the Doosan machines, and the ability to easily communicate with each other because there is less noise. Operators regularly communicate via radios from inside the cabs to ensure safety. **DM**

Visit **www.doosanequipment.com** and click on the Products tab to find more information about Doosan excavators, wheel loaders and articulated dump trucks.

## Quick attachment changes

Operators, like those at Mullins Salvage, utilize hydraulic quick couplers for their Doosan wheel loaders to quickly and easily change attachments from inside the cab, saving valuable time. "There's a quick disconnect button to help operators take buckets off and put the pallet fork on. It takes 30 seconds and all happens within the cab," says Max Mullins, Mullins Salvage.

# DRILLING DOWN TO A BETTER SOLUTION

Left to right: Steve Dennis, Sales Manager; Ed Amos, President; Darin Sweeney, Production Manager

## Manufacturer purchases Doosan excavators to add rentals to its drill business

At one time, Ed Amos and two of his key employees, Darin Sweeney and Steve Dennis, worked as deep foundation contractors in the Baltimore, Maryland, and Washington, D.C., areas.

"The REV drill powered by a Doosan excavator is the answer to some of the most important issues facing the drilling industry," Amos, president of REV Drill Sales & Rentals, Frederick, Maryland, says. Our product is a fraction of the cost of other equipment.

And since it is powered by an excavator, once the drilling is complete the drill can be removed in 45 minutes or less and you can start digging with the excavator."

"For the rental portion of our business, which is about 60 percent of our business, we have relied on Doosan excavators for years," Amos continues. "We've got 20 of the units today and are confident we can send them out with our drills knowing that rental customers will have the best equipment combination available."

### Company changed over time

Dennis, sales manager of REV Drill, adds, "Our budget was limited, so he spent a lot of time shopping for just the right excavator to send out with our rental drills. A reliable machine in the right price range was the key to developing a good rental business."

Amos says he looked at several brands of excavators, but was pleasantly surprised by the economic benefits of the Doosan machines.

"The initial capital investment or cost per hour was much less than other products," Amos recalls. "Some comparable machines were 50 percent higher than the Doosan excavators. The price originally caught my attention, but over the years I have come to appreciate other important features of doing business with Doosan and H&E Equipment Services: product reliability, support and service, warranty, parts availability and a good all-round machine that is productive and operator-friendly."

Today REV Drill has 20 Doosan crawler excavators in its rental fleet, ranging in size from the DX180LC to the DX350LC, plus a DX190W wheel unit. The units are rented from a couple of days up to six or eight months. Many clients have rented from the company for more than a decade.

"Most of our customers are in heavy highway construction," Amos says. "That type of work includes a lot of deep foundation applications, including caissons, pre-drilling for support of excavation, bridge abutments, micropiles and rock drilling. Some of the largest contractors are using our rental drills and excavators to build sound walls.

His business is also benefiting from the explosion of new highway and bridge construction. This has resulted in sales throughout the world, along with rental units currently in Dallas, Chicago and New York, and throughout the Washington, D.C.-Baltimore region.

"The drills, with their simple design, are built to perform in many applications and working conditions," Amos says. "And while the excavators take a good beating out in the field, they also hold up very well. We have probably put about 100,000 total hours on our Doosan machines and have experienced only minimal downtime. We put 7,000 hours on one of our excavators. I sold it and it's still going strong." DM

Visit **www.doosanequipment.com** and click on the Crawler Excavators or Wheel Excavators links for more information about Doosan excavators.

THE ROC
REAL OPERATION CENTER

# A FIRST-CLASS EXPERIENCE

Ralph DiGiorgio, a Boston, Massachusetts-area contractor and developer, is a partner in Equipment North, a holding company that owns the equipment used by his other construction-related enterprises. Earlier this year, DiGiorgio visited the Doosan Real Operation Center (The ROC) near Tucson, Arizona, along with one of his business partners, Tom O'Connell.

## New England contractor recounts his visit to The Real Operation Center for a first-class experience with Doosan staff and machinery

"If you had asked me about Doosan equipment a few years ago, I would have shrugged my shoulders and said, 'I never thought about the company.' But with age comes wisdom, so I am a little more open-minded these days about my equipment options.

"I had been loyal to mostly one brand until a couple of years ago when equipment prices started to creep up and service began to decline. About that time, Dan Clifford, an equipment salesman I had known for a long time, suggested I take a look at a Doosan excavator. My operators tried it, liked it and, as a result, I purchased a DX350LC from my local Doosan dealer, Equipment East.

"My interest in Doosan heavy equipment resulted in an invitation to visit The ROC, the company's hands-on operation facility in the Sonoran Desert. I would not have taken the trip if my operators did not like our initial Doosan excavator purchase. They were so pleased with the DX350LC that I figured it would be worthwhile to check out the rest of the product lineup.

"I didn't know what to expect, but when we arrived, there was this vast field of orange equipment. It was like a giant toy store. We tried every machine they had and were able to evaluate how the various sizes best fit our needs. In one case we thought we needed one size, but after running the equipment we realized that a different machine would suit our needs better. The location was set up so we could test the equipment in real-life conditions, and, believe me, some of the soil was mighty hard.

"Of course there were some fun events, too. We went golfing and skeet-shooting. The Doosan staff provided five-star accommodations and plenty of fine dining. All in all, it was a great experience.

"My advice: If you have a chance to visit The ROC, don't hesitate. Jump on board. You will be very impressed. I was so impressed that I purchased two additional Doosan machines when I returned."

> *MY ADVICE: If you have a chance to visit The ROC, don't hesitate. Jump on board. You will be very impressed.*
>
> — **Ralph DiGiorgio,** Equipment North

> *It was like a giant toy store. We tried every machine they had and were able to evaluate how the various sizes best fit our needs.*
>
> — **Ralph DiGiorgio,** Equipment North

## FINANCIAL BENEFITS DRIVE EQUIPMENT SWITCH

Ralph DiGiorgio may not operate equipment these days, but he certainly understands what's necessary for making his business successful. That's why in the past two years he's embraced the value that Doosan products bring to his bottom line.

"At first I was a little apprehensive about trying a new brand, but I figured when it was time to add equipment I'd let my operators decide on what they preferred," DiGiorgio says. "When we needed to add another excavator to our fleet, I had them test several leading brands. A short time later we did the same with a group of wheel loaders. In both cases, the four operators who demoed the machines said they liked the Doosan brand best. I went along with their recommendations because they are the ones who use the equipment all day. If they are happy, I am happy."

The operators said the Doosan machines were powerful, strong, smooth, quick, easy to operate and had great visibility from a very comfortable cab. DiGiorgio also liked the favorable economics associated with the Doosan products. "A lower purchase price was certainly appealing to me," he says. "A quality machine at a good price makes a lot of sense."

Fuel consumption is another financial factor that has been a pleasant surprise to DiGiorgio. "The DX350LC is consuming about half as much fuel as a similar-sized older excavator from another manufacturer," he says. "With fuel prices around $4 a gallon, I figure I'm saving 200 gallons a month on the DX350LC. That's $800 on that one machine. A similar savings on another Doosan excavator would allow me to make the monthly payments on a third machine. That's getting a new machine paid for by the fuel savings on two Doosan excavators."

As a result of those economic eye-openers, DiGiorgio is getting rid of some older equipment that is costing too much in fuel and repairs compared to the new Doosan machines. "I would rather pay the manufacturer to have a new machine than pay the fuel company to operate the less efficient, less productive machines," he says. "That, to me, makes a lot more sense." DM

Visit **www.doosanequipment.com/roc** to learn more about The ROC — the ultimate Doosan operating experience.

# BIRDS OF A FEATHER

A Doosan wheel loader solves chicken manure challenge for national poultry operation

In a poultry operation with 8.5 million laying hens, eggs are not the only outcome. When that many birds of a feather flock together, they produce 500 million pounds of manure annually — that's nearly the weight of 1,100 Statues of Liberty. A new Doosan DL250-3 wheel loader with exceptional agility, power and performance is helping drive a part of that collection business for Midwest Poultry Services.

Operating a branch of one of the nation's largest shell egg production facilities in North Manchester, Indiana, means the 172-horsepower DL250-3 — with optional high lift for greater dump height — stays busy from dawn to dusk, managing the removal and loading of dry manure for storage and application as fertilizer on local farm fields.

Dan Krouse, complex manager, Midwest Poultry Services

"The aspects I look at most are bucket pin height, horsepower and weight," says Complex Manager Dan Krouse, a sixth-generation egg farmer. "The DL250-3 had the best power-to-weight ratio of the units we considered, and the dimensions were also great. It can handle larger loads in a tighter space than most comparable units."

Krouse had previously used another wheel loader brand to perform the work, but his evaluation of the DL250-3 revealed key advantages for maneuvering in the tight areas found in poultry production. Krouse says operators must enter a narrow manure storage barn, scoop up a load and turn 180 degrees to exit the building.

A careless operator could easily take out roof rafters or walls, but the Doosan wheel loader's 20-foot turning radius allows for tight turns, to minimize damage to buildings or adjacent objects. "A machine that is nimble and has controls that are easy to handle is a great plus. Also, despite being considerably larger and heavier than our other brand, it actually has the same turning radius. It's another feature that led us to buy Doosan," says Krouse, who purchased the machine from B&W Equipment.

## Operation manure lift

Setting up a DL250-3 wheel loader with the right bucket and reach to handle the loading logistics for several hundred thousand pounds of chicken manure is critical. Midwest Poultry Services recently stepped up to a 5.5-cubic-yard light material bucket to handle the volume.

"Since the waste material is light, compared to rock or soil, we use a larger bucket without overloading the unit," says Complex Manager Dan Krouse. "Our manure hauler estimates that it saves him two scoops every load, which saves time and fuel."

Operators fill trucks and semitrailers with 11- to 12-foot-tall sides, prompting Krouse to specify the DL250-3's high-lift package with a bucket hinge pin height of 14 feet 2 inches. "Without the high-lift feature, the operator would have to be very careful not to damage the trailer."

A quality filtration system is vital in this environment. The abrasive manure, along with small feathers, creates a dust that can quickly clog radiators and intakes. "I received great reviews about the DL250-3 from a nearby slag-crushing operation that also needs a good system. We haven't had trouble with the radiator because the automatic reversing fan takes care of it." DM

Visit **www.doosanequipment.com** to find more specs and performance features of the Doosan DL250-3 wheel loader.

# DOOSAN HEAVY EQUIPMENT

## Excavators / Log Loaders

Crawler | Wheel

| | Model CRAWLER | Engine hp (kW) NET | Operating Weight lb. (kg) | Arm Breakout Force lbf. (kg) | Max. Digging Depth ft./in. (mm) | Max. Reach at Grade ft./in. (mm) | Max. Dump Height ft./in. (mm) |
|---|---|---|---|---|---|---|---|
| | DX63-3 | 59 (44) | 13779 (6250) | 5765 (2615) | 13' 6" (4115) | 20' 5" (6230) | 14' (4267) |
| | DX85R-3 | 59 (44) | 18960 (8600) | 8069 (3660) | 15' 6" (4725) | 23' 11" (7295) | 16' 5" (4995) |
| | DX140LC-3 | 107 (80) | 31746 (14400) | 13228 (6000) | 20' 2" (6135) | 28' (8530) | 21' 2" (6440) |
| | DX140LCR-3 | 102 (76) | 33510 (15200) | 13228 (6000) | 19' 8" (5985) | 28' (8530) | 23' 3" (7080) |
| | DX180LC-3 | 122 (91) | 41248 (18710) | 20503 (9300) | 20' 1" (6110) | 29' 5" (8960) | 21' 4" (6500) |
| | DX225LC-3 | 162 (121) | 49604 (22500) | 23810 (10800) | 21' 7" (6585) | 31' 10" (9710) | 22' 5" (6840) |
| | DX225LC-3 SLR | 167 (124) | 54564 (24750) | 13288 (6000) | 38' 3" (11650) | 50' 1" (15265) | 35' 7" (10845) |
| | DX235LCR | 166 (124) | 53572 (24300) | 23810 (10800) | 21' 10" (6670) | 31' 7" (9627) | 26' 1" (7950) |
| NEW | DX255LC-5 | 183 (136) | 57752 (26196) | 28219 (12800) | 22' 4" (6810) | 32' 9" (9995) | 23' (7025) |
| | DX300LC-5 | 267 (199) | 68764 (31191) | 30644 (13900) | 23' 11" (7290) | 34' 6" (10530) | 23' 10" (7264) |
| | DX300LC-5 SLR | 267 (199) | 72462 (32868) | 16535 (7500) | 45' 3" (13792) | 57' 1" (17399) | 39' 3" (11963) |
| | DX350LC-5 | 313 (233) | 80654 (36580) | 41667 (18900) | 24' 8" (7518) | 35' 11" (10947) | 23' 6" (7163) |
| NEW | DX420LC-5 | 337 (252) | 94799 (43000) | 43431 (19700) | 25' 5" (7740) | 37' (11290) | 25' 3" (7710) |
| NEW | DX490LC-5 | 373 (278) | 112206 (50896) | 50045 (22700) | 25' 7" (7790) | 38' 11" (11865) | 25' 9" (7865) |
| NEW | DX530LC-5 | 373 (278) | 116576 (52878) | 56879 (25800) | 24' 1" (7340) | 37' 7" (11455) | 25' 4" (7722) |
| NEW | DX530LC-5 SLR | 373 (278) | 117112 (53120) | 26235 (11900) | 49' 7" (15125) | 63' 9" (19455) | 39' (11890) |

| Model WHEEL | Engine hp (kW) NET | Operating Weight lb. (kg) | Arm Breakout Force lbf. (kg) | Max. Digging Depth ft./in. (mm) | Max. Reach at Grade ft./in. (mm) | Max. Dump Height ft./in. (mm) |
|---|---|---|---|---|---|---|
| DX140W-3 | 135 (101) | 33731 (15300) | 17901 (8120) | 14' 9" (4496) | 24' 11" (7585) | 19' 5" (5905) |
| DX190W-3 | 168 (125) | 43431 (19700) | 21605 (9800) | 18' 9" (5725) | 30' 4" (9255) | 22' 2" (6765) |
| DX210W | 161 (120) | 45761 (20757) | 22487 (10200) | 20' 6" (6255) | 32' 10" (10000) | 23' 9" (7250) |

| Model LOG LOADER | Engine hp (kW) NET | Operating Weight lb. (kg) | Max. Loading Reach lbf. (kg) | Max. Loading Height ft./in. (mm) | Swing Speed rpm | Draw Bar Pull lbf. (kgf) |
|---|---|---|---|---|---|---|
| DX225LL | 148 (110) | 65036 (29500) | 36' 2" (11035) | 42' 5" (12929) | 11.7 | 71070 (32237) |
| DX300LL-3 | 204 (152) | 80910 (36700) | 38' 3" (11650) | 44' 7" (13580) | 9.9 | 76611 (34750) |

LC = long carriage  LCR = long carriage, reduced tail swing  W = wheel  SLR = super-long reach  LL = log loader

# Material Handlers

| Model | Engine hp (kW) NET | Operating Weight lb. (kg) | Swing Torque lbf.-ft. (kgf-m) | Drawbar Pull lbf. (kgf) | Max. Loading Reach ft./in. (mm) | Max. Loading Height ft./in. (mm) |
|---|---|---|---|---|---|---|
| DX210WMH | 161 (120) | 58202 (26400) | 60786 (8404) | 26742 (12130) | 35' 9" (10900) | 39' 8" (12100) |
| DX225MH-3 | 162 (121) | 60848 (27600) | 60757 (8400) | 60715 (27540) | 35' 5" (10800) | 40' (12200) |
| DX300MH-5 | 267 (199) | 79366 (36000) | 87787 (12137) | 83258 (37765) | 42' 8" (13000) | 46' 3" (14100) |

# Wheel Loaders

| | Model | Engine hp (kW) NET | Operating Weight lb. (kg) | Bucket Capacity cu. yd. ($m^3$) | Max. Dump Height ft./in. (mm) | Breakout Force lbf. (kg) |
|---|---|---|---|---|---|---|
| | DL200-3 | 160 (119) | 26810 (12160) | 2.6 (2) | 9' 6" (2890) | 22230 (10083) |
| | DL200HL-3 | 160 (119) | 28000 (12270) | 2.6 (2) | 10' 9" (3270) | 22031 (9993) |
| | DL200TC-3 | 160 (119) | 26896 (12200) | 2.6 (2) | 8' 10" (2685) | 23040 (10452) |
| | DL220-3 | 160 (119) | 28350 (12860) | 3 (2,3) | 9' 3" (2825) | 23650 (10727) |
| | DL250-3 | 172 (128) | 31900 (14470) | 3.7 (2,8) | 9' 2" (2785) | 27120 (12301) |
| | DL250HL-3 | 172 (128) | 32780 (14870) | 3.4 (2,6) | 10' 8" (3250) | 25680 (11648) |
| | DL250TC-3 | 172 (128) | 31770 (14410) | 3.4 (2,6) | 9' (2740) | 25980 (11784) |
| NEW | DL300-5 | 271 (202) | 41844 (18980) | 4.2 (3,2) | 9' 4" (2845) | 37768 (17131) |
| NEW | DL300HL-5 | 271 (202) | 42869 (19440) | 4.2 (3,2) | 11 '1" (3379) | 37768 (17131) |
| NEW | DL350-5 | 271 (202) | 43541 (19750) | 4.8 (3,7) | 9' 11" (3040) | 36869 (16723) |
| NEW | DL350HL-5 | 271 (202) | 44743 (20295) | 4.8 (3,7) | 11' 8" (3556) | 36869 (16723) |
| NEW | DL420-5 | 345 (257) | 50706 (23000) | 5.5 (4,2) | 10' 1" (3075) | 47210 (21414) |
| NEW | DL420HL-5 | 345 (257) | 50485 (22900) | 5.5 (4,2) | 11' 9" (3581) | 49458 (22434) |
| NEW | DL450-5 | 345 (257) | 56868 (25795) | 6.3 (4,8) | 10' 8" (3240) | 51930 (23555) |
| NEW | DL450HL-5 | 345 (257) | 57618 (26140) | 6.3 (4,8) | 12' 2" (3708) | 51256 (23250) |
| NEW | DL550-5 | 380 (283) | 69897 (31714) | 7.5 (5,7) | 11' 2" (3405) | 55528 (25187) |
| NEW | DL550HL-5 | 380 (283) | 70658 (32050) | 7.5 (5,7) | 12' 6" (3810) | 55528 (25187) |

HL = high lift TC = tool carrier

# Articulated Dump Trucks

| | Model | Engine hp (kW) NET | Operating Weight (empty with tailgate) lb. (kg) | Max. Loaded Weight lb. (kg) | Heaped Capacity (with tailgate) cu. yd. ($m^3$) | Payload lb. (kg) |
|---|---|---|---|---|---|---|
| NEW | DA30-5 | 365 (272) | 51588 (23400) | 113318 (51400) | 23.3 (17,8) | 61729 (28000) |
| NEW | DA40-5 | 490 (365) | 70107 (31800) | 158292 (71800) | 34 (26) | 88185 (40000) |

*Specifications and design are subject to change without notice*

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